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This WRAIR Annual Report concerns research activities conducted by members of the Department of Military Psychiatry for the period 1 October 1988 - 30 September 1989. This report provides a status update of research projects to include a brief description of the purpose, major projects completed during this period, and those expected during the next fiscal year.

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Department of Military Psychiatry
Division of Neuropsychiatry
WRAIR Annual Research Summaries
1 October 1988 - 30 September 1989

Edited by James E. McCarroll, Ph.D.
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WRAIR Annual Research Summaries
1 October 1988 - 30 September 1989

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Stress and Health in Army Survivor Assistance Officers:
Long-Term Effects

PRINCIPAL INVESTIGATOR: CPT Paul T. Bartone, Ph.D., MS

PROJECT START DATE: October 1988

EXPECTED COMPLETION DATE: July 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This study examines the long-term sequelae of exposure to stressors of helping Army families who have experienced the sudden death of a service member, usually in a training accident. Goals are to identify critical sources of stress for assistance providers and families, determine most effective coping mechanisms or resources, and to apply this knowledge to training programs and policy changes for facilitating healthy adjustment in both families and Army assistance providers.

PRODUCTS COMPLETED DURING THIS PERIOD: The most severe sources of stress for family helpers are organizational confusion and lack of information, exposure to family members' grief and emotional outbursts, and ambiguity about their roles. Levels of exposure to such stress are related to ill-health outcomes over a 2-year period. Social supports from commanders, friends and family help determine positive outcomes, as does the personality style of hardiness.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: In addition to completing content analyses of open-ended response data for Gander SAOs followed over time, data on SAOs functioning in other casualty scenarios will be analyzed and reported on. This includes survey data from SAOs who assisted families of Army dead after the (December 1988) Pan Am 103 crash, and two recent Army helicopter crashes. These data will be compared with the Gander SAO data to identify common stress areas and effective coping strategies.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Group Reconstitution and Recovery From Traumatic Stress**PRINCIPAL INVESTIGATOR:** CPT Paul T. Bartone, Ph.D., MS**PROJECT START DATE:** October 1988**EXPECTED COMPLETION DATE:** July 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project will enhance our understanding of the psycho-social effects of traumatic stress associated with death and serious injuries in military units. This research grows out of earlier work that examined processes of unit reconstitution and group recovery in the Army unit that suffered the most casualties in the Gander airline crash of 1985. Current areas of investigation all focus on how individuals and groups cope successfully with the acute and chronic stress of exposure to death and casualties. Findings will provide guidance to commanders on how to maximize unit recovery and performance following battlefield losses.

PRODUCTS COMPLETED DURING THIS PERIOD: Results thus far show effective unit recovery and restoration of cohesion and combat readiness is achieved by inter-mixing replacements with veterans, rather than establishing new platoons or companies composed entirely of replacements. The actions of leaders in setting the example for appropriate responses, both behavioral and emotional, and providing support to subordinates emerges as a critical variable in facilitating recovery.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Three sub-studies will be completed during this period:

1. A study of stress, coping, and burnout in Army casualty assistance workers. The focus will be on identifying stress-resistance resources in personnel who encounter daily chronic stress of working with casualties.
2. A long-term follow-up of the survivors of Task Force 3-502 (Gander). The focus will be on sources of strength and healthy coping mechanisms among surviving members of the Sinai task force involved in the 1985 crash.
3. An examination of work-unit response to disaster following the Pan Am 103 crash. This research will examine civilian analogs to military units that must resume normal functioning as quickly as possible following disaster.

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30 September 1988

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Morale, Cohesion, and Health: Toward Conceptual Clarity and Measurement Precision

PRINCIPAL INVESTIGATOR: CPT Paul Bartone, Ph.D.

PROJECT START DATE: October 1987

EXPECTED COMPLETION DATE: October 1989.

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This ongoing project uses a variety of data sources and analytic procedures to (1) develop an empirically-based conceptualization of the core military psychological constructs of morale and cohesion, and (2) refine a set of self-report measures based on these findings. Exploratory and confirmatory factor analyses are applied to various soldier survey samples of WRAIR in order to determine the major categories in which soldiers frame and interpret their experience. The effects of time-in-unit, geographic/strategic location, and unit type on the structuring of these constructs is explored.

MAJOR PRODUCTS COMPLETED: Using existing data bases on large groups of enlisted soldiers, this project employed factor-analytic techniques to identify the underlying dimensions of morale and cohesion over time. While seven rather similar factors emerged across groups and time, some differences were apparent that probably reflected social maturational processes occurring in Army units. The seven factors can be understood as aspects of the more general dimensions of morale, cohesion, and esprit. Empirically based measures of morale were offered based on these results.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Leadership, Training, and Operational Readiness**PRINCIPAL INVESTIGATOR:** CPT Paul Bartone, Ph.D.**PROJECT START DATE:** October 1987**EXPECTED COMPLETION DATE:** August 1989.

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This research explores the independent and interacting effects of leader characteristics, values, and behaviors, and training policies and practices on unit climate, morale, and performance indicators. A sample of 52 company commanders described factors they believed were important to unit combat success. These responses were scored according to accepted standards for quantifying open-ended data, and then related to average unit scores on measures of morale, unit climate, and well-being. Results contribute to a better understanding of the processes by which leaders foster excellence in their units.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: The challenge of leadership in a military unit is best conceived not as one of industrial management, but rather as effective leadership in high-stress environments. Basic principles of social psychology and health psychology together provide new insights into how military leaders can effectively develop and maintain good units.

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30 September 1988

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Stress, Coping, and Adjustment in Soldiers

PRINCIPAL INVESTIGATOR: CPT Paul Bartone, Ph.D.

PROJECT START DATE: October 1987

EXPECTED COMPLETION DATE: January 1990.

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project explores a variety of issues related to the adjustment of soldiers to the special demands and challenges of the soldier occupation. Survey data from the WRAIR UMS (Unit Manning System) Survey are utilized, as well as survey data on a battalion-sized group of soldiers in an Arctic climate. The impact of both person and situation variables on soldier performance and well being is investigated, drawing on a model that emphasizes person-environment fit. Throughout, special attention is devoted to locating organizational and individual resources that confer resistance to the ill-effects of various kinds of environmental and psycho-social stress.

MAJOR PRODUCTS COMPLETED: Recent work in social and health psychology has emphasized positive coping and adjustment to stress, as opposed to just risk factors. This work found that the stress soldiers experience in a peacetime, volunteer Army is modulated by resilience factors of social supports and personality hardiness. These positive effects do not necessarily show up when the search is for risk factors that increase vulnerability to occupational and traumatic stress. Future research on psycho-social modulators of stress should consider resilience factors as well as risk factors as modulators of adjustment to stress.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Cohesion and Psychological Readiness in Combat Service Support Units of Light and non-Light Infantry Divisions: A Pilot Study

PRINCIPAL INVESTIGATORS: Nancy L. Harrison. M.A.
Joseph M. Rothberg. Ph.D

PROJECT START DATE: August 1987

COMPLETION DATE: August 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH:

1. To conduct the second phase of a pilot study of the ways in which command climate and attributes unique to combat service support units relate to psychological readiness for combat.
2. To compare aspects of psychological readiness for combat in combat service support units and combat units.
3. To conduct the second phase of the investigation of the relationship of combat service support unit structure and composition and soldier characteristics to cohesion and psychological readiness for combat.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: The second phase of the pilot study of cohesion in combat service support units was completed. This phase consisted of an analysis of approximately 2400 questionnaires and 400 interviews with soldiers of all ranks in the division support command (DISCOM) of a light and of a mechanized infantry division. A report was prepared, "Mission, stress and leadership in DISCOM units: A report on soldiers' perceptions" which will be published in The Army Logistian. Based on the findings of the pilot study, a protocol entitled Manning Patterns, Cohesion and Psychological Readiness in Combat Service Support Units was prepared.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Manning Patterns, Cohesion and Psychological Readiness in Combat Service Support Units

PRINCIPAL INVESTIGATOR: Nancy L. Harrison, M.A.

PROJECT START DATE: November 1989

EXPECTED COMPLETION DATE: December 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: To generate and analyze baseline data which will further an understanding of the possible relationships, established at present only for combat arms units, between military unit cohesion and manning patterns, stability and technical effectiveness in combat service support (CSS) units, and will generate additional baseline data which will address three areas:

1. CSS small unit leader behavior as it affects psychological readiness for combat;
2. Direct assessment of the psychosocial boundaries of the soldiers' primary groups and their characteristics as support givers and stress mediators in CSS units;
3. The impact of CSS unit replacement patterns on those of unit cohesion as a consequence of unit size, type, replacement package size and soldier characteristics.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: A protocol for this study has been written and the survey instrument has been drafted.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: The goal of the research project is a report which will provide lessons for CSS leadership training, manning doctrine and cohesion that will increase soldiers' ability to cope with added stress and to sustain themselves and their performance. By the end of the fiscal year, it is expected that the survey data and follow up interviews with lower enlisted soldiers of the DISCOMs of two divisions will have been obtained and analyzed.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: NCO Career Histories

PRINCIPAL INVESTIGATOR: COL Larry H. Ingraham, Ph.D., MS

PROJECT START DATE: May 1986

EXPECTED COMPLETION DATE: September 1991

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Stress factors among the non-commissioned officers was examined by means of tape recorded career histories. Training and Doctrine Command (TRADOC) schools were asked to nominate one senior NCO who could represent the technical area and who could describe the experience of becoming a sergeant. Seventeen career history narratives have been recorded and four have been transcribed.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: An edited manuscript (300+ double-spaced pages) highlighting the career history of one sergeant major is nearing completion, with an anticipated delivery date of early February 1990.

MAJOR PRODUCTS EXPECTED IN THE NEXT FISCAL YEAR: Qualitative data analysis has begun on seven selected transcripts, which will be the basis of a second manuscript being developed for publication in 1991. In addition, several journal articles will evolve from the qualitative data analysis.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: The Family Stress and Coping: A Prospective Study of New Mothers and Their Families.

PRINCIPAL INVESTIGATOR: MAJ Peter S. Jensen, M.D., MC

PROJECT START DATE: August 1987

EXPECTED COMPLETION DATE: April 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project involves the longitudinal analysis of 100 active duty and dependent mothers' responses to pregnancy and delivery of a child, and analysis of the effects on family functioning. Families are identified in the first trimester of pregnancy, and followed until 6 months after the birth of the child (approximately 4 assessments). The objectives are:

1. To determine factors affecting family adjustment to the birth of a new child.
2. To examine the longitudinal effects of stress, social and military supports on soldier and family wellness before, during, and after the addition of a new child to the family.
3. To determine how patterns of adjustment to the birth of a new child affect active duty versus dependent mothers.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD:

1. No evidence was found for the effects of stress, social supports, or coping on the medical outcomes of pregnancy on mothers or their babies.
2. Mothers' attitudes toward the baby at birth are affected by earlier stresses over the course of pregnancy, the presence of social supports, and marital relationships. One of the most important factors mediating mothers' responses was the marital relationship.
3. Families at the transition point of adding a new child to the family may be especially vulnerable to the effects of stress and absence of supports. Where both of these conditions prevail (high stress and absence of supports), mothers have somewhat more negative perceptions and attitudes about their newborn child. Provision of supports to young families at the point of having a new baby may be an effective means of providing stability to a significant number of vulnerable families.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: During the next fiscal year analyses will be performed to compare active duty and dependent mothers' responses to the birth of a baby and determine which factors predict successful family adaptation during the first 6 months after the baby's birth.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Life Stress and Family Functioning: An Empirical Study of the Frequency and Effects of Stressful Life Events on Military Children and Families.

PRINCIPAL INVESTIGATOR: MAJ Peter S. Jensen, M.D., MC

PROJECT START DATE: August 1987

COMPLETION DATE: October 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project involves the item-by-item analysis of the relative frequency of stressful life events in a community sample of 200 military children, and a clinical sample of the same size. Also, the relative contribution of discrete events to child and family dysfunction (in terms of utilization of psychiatric services and developing actual symptomatology) was examined.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD:

1. Events affecting the child, according to the view of the parents, are not the same as those affecting the child, according to the view of the child. While the child reports that he/she is most affected by events such as loss of friends, moves, etc., parents report that children are most affected by family financial problems.
2. Social supports, per se, do not provide significant buffering effects for the effects of stress upon children. Instead, children are most affected (and protected/buffered from effects of stress) by their parents' psychosocial functioning.
3. Interestingly, parents tend to see their children as having more difficulties than expected, compared to national norms. In contrast, children and teachers see the children's problems at levels consistent with national norms.
4. Interventions focused on helping children only, may fail to the extent that they do not address the problems that affect both children and parents. Provision of supports to the child may not lead to longer term gains for the child, if the needs of the parents are not also addressed.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: A Comparison of Clinical and Community Samples of Military Children in Symptoms, Functioning, and Background Risk Factors.

PRINCIPAL INVESTIGATOR: MAJ Peter S. Jensen, M.D., MC;

PROJECT START DATE: August 1987

COMPLETION DATE: October 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project involves the comparison of family member symptoms and background factors in a community sample (200 military children) versus a clinical sample (500 military children). Analyses will be done to determine which background factors predispose to the development of psychiatric symptoms and seeking out medical-psychological care. Furthermore, background and contextual factors will be examined to determine which factors may buffer/protect the child and family from dysfunction. The objectives of this research were:

1. To determine the effects of various risk factors (rank, age of child, sibling position, stress, parental functioning levels, community support, housing, etc.) on the expression of dysfunction and symptomatology on children and their parents.
2. To determine how these risk factors may influence use of medical psychiatric resources, apart from dysfunction.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD:

1. The most salient variable mediating children's dysfunction is the parents' functioning levels (mother > fathers), while parental stress levels, rank, age, and sibling position play lesser roles.
2. The severity of a given child's symptoms does not alone predict whether his/her parents will seek care for the child. Parents are most likely to seek out care for their children as families get larger, when parents themselves are symptomatic, and at times of life stress.
3. Programs designed merely to provide medical care for children must be prepared to evaluate and treat all family members, including the sponsor. Determining function and dysfunction in both parents may be critical to rendering effective assistance.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Family Types, Military Performance, and Life Stress

PRINCIPAL INVESTIGATOR: MAJ Peter S. Jensen, M.D., MC

PROJECT START DATE: August 1987

EXPECTED COMPLETION DATE: April, 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project involves the cross-sectional assessment of 600 families (200 from a community sample and 400 from consecutive referrals to a child psychiatry clinic) to determine if there are particular patterns or family interactions that help the family weather the stresses and strains of military life. The objectives are:

1. To determine whether there are "types" of families that function well, despite significant military life stresses.
2. To determine which patterns and factors distinguish families that adjust to the stresses of military life.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: In contrast to our expectations, our data analyses indicate that routine military stresses (brief father absence, PCS, etc.) do not have major effects on family functioning for most military families. However, events such as PCSs, father absence, etc., may become focal points to which some vulnerable families may attribute their difficulties. In these families, problems in one parent or in a child tend to reverberate throughout all members of the given family. Thus, when the spouse is experiencing difficulties, the soldier is likely also be significantly affected. Furthermore, when a child is having behavioral problems and/or emotional difficulties, the parents are also likely to experience significant dysfunction.

Our data suggest that many Army families adapt quite successfully to routine military life stressors. However, some families may be more vulnerable to these same stressors. Programs for the broad population of Army families may not be well spent. Instead, identification of subgroups of families in need of additional supports, and providing them these needed supports is likely to be most effective. Attention should be directed to identifying families who are vulnerable, increasing their capacity to adapt themselves to the military life structure.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Cluster and factor analyses will be performed on the total sample of 600 families to determine the possibility of identifying family subtypes. We will determine if these subtypes can be characterized as requiring or using different resources and supports and if they are amenable to different interventions. Such analyses may help us to more effectively use resources for various military family subgroups.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Family and Soldier Functioning Under Chronic Stress.**PRINCIPAL INVESTIGATORS:** MAJ Peter S. Jensen, M.D., MC,
Leora Rosen, Ph.D.,
John Newby, Ph.D., LTC, MS
John Richters, Ph.D.**PROJECT START DATE:** August 1987**EXPECTED COMPLETION DATE:** October 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: This project involves the comparison of 250 families who have a child enrolled in the EFMP, with 250 families selected from the post population. Mothers and fathers complete survey materials to determine their perceptions of family stresses, coping mechanisms, military life satisfaction, nature of the marriage, presence of medical problems in all family members, and use of medical resources. Also, for 200 of the 500 families, mothers and children are interviewed to determine the presence and extent of any emotional problems. The objectives are:

1. To determine the effects of having a child with a handicapping condition upon family members, and ascertain how some families are able to adapt successfully.
2. To determine the numbers of families who are in the Exceptional Family Member Program (EFMP) living on post at Ft. Meade, determine how many resources they use, and determine their satisfaction with the EFMP.
3. To determine the proportion of families qualifying for EFMP enrollment, but choosing not to join.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: Data have been collected on about 100 families thus far, but have not yet been analyzed.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Adaptation and Social Networks of Drill Sergeants' Families**PRINCIPAL INVESTIGATOR:** Pearl Katz, Ph.D.**PROJECT START DATE:** 1987**EXPECTED COMPLETION DATE:** 1991

DESCRIPTION OF THE PURPOSES OF THE RESEARCH: The purpose of the study is to examine the natural history of the adaptational processes of drill sergeants' families in order to determine sources of stress and sources of adaptation. The research examined social network participation, and perceptions of stress of drill sergeants and their spouses as they participate in their family life, Drill Sergeant School and drill sergeant duty. The research focuses generally upon the investigation of drill sergeants' families' strategies of adaptation to stress, and specifically on identifying those strategies and social networks which facilitate adaptation to drill sergeant duty and buffer stress, as well as those which hinder adaptation and increase stress. Secondarily the research examines the interrelationships between drill sergeants' participation in their families and in their units. Thirty drill sergeant families (32 drill sergeants and 26 spouses) were studied, during their two year tour of drill sergeant duty, beginning with their PCS to the training post and training in Drill Sergeant School. Participant-observation and intensive open-ended interviewing (4-6 hours each) were the principal methodologies. Analyses of the data is continuing.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: The major products completed during this period are a number of presentations, and publications in the scientific literature. These publications and presentations serve to inform and educate Army and military professionals on the current state of this research activity. They cover the broad areas of Army family adaptation, family/unit interaction, socialization to military roles. In addition, lectures and presentations have been given in the general areas of cultural and medical anthropology and their contributions to psychiatry.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR:

1. Questionnaire distributed to wives of all male drill sergeants, and to a control sample of wives of other NCOs.
2. Dissemination of research findings in the scientific literature, specifically on the adaptational strategies of drill sergeant families.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Study of the American Soldier

PRINCIPAL INVESTIGATOR: Faris R. Kirkland

PROJECT START DATE: July 1988

EXPECTED COMPLETION DATE: June 1991

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Investigate the evolution of human relations in the U. S. Army from the 19th century to the present. Integrate data from archives, memoirs, policy documents, surveys and observational data to identify and describe the development of relationships between leaders and followers, as mediated by evolving military culture, from the immediate post-colonial period through the Civil War, emergence of the U.S. as a great power, and the wars of the 20th century.

MAJOR PRODUCTS COMPLETED: There were two significant findings this year:

1. That policies on discipline and leadership in the U. S. Army between 1779 and 1988 were remarkably stable, and that these policies, for the most part, would meet with the approval of the social science research community in 1989.
2. That one other factor in human relations in the Army has been stable for the past 200 years: that commanders and leaders behave in ways sharply at variance with policy on discipline and leadership. Identifying the processes that underlie these two findings has become the primary focus of future research efforts.

MAJOR PRODUCTS EXPECTED IN THE NEXT FISCAL YEAR: The questions to be investigated are:

1. Is policy on discipline and leadership defective in that it cannot be implemented by human beings, or by those human beings who become leaders in the U. S. Army?
2. What unwritten contingencies exert sufficient influence that they nullify the dictates of policy? Are they beneficial or counterproductive in their primary and subsidiary effects and can they be changed?

This line of research builds on work begun at the Army War College in 1970 but that is not now being actively pursued. Probable products may include evidence to support minor changes to doctrine and are likely to include evidence to support major changes to leadership training and to reward contingencies.

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RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Unit Manning System Human Dimensions Field Evaluation Survey.

PRINCIPAL INVESTIGATORS: David H. Marlowe Ph.D.
CPT Mark A. Vaitkus, Ph.D., MS

PROJECT START-UP DATE: March 1985

EXPECTED COMPLETION DATE: February 1990

BRIEF DESCRIPTION OF PURPOSES OF THE RESEARCH: This research was undertaken to meet a Department of the Army mandate to collect attitudinal data measuring changes in human dimensions related to the implementation of the COHORT (Cohesion, Operational Readiness, and Training) component of the New Manning System. Specifically, the objective was to assess cohesion, morale, and other psycho-social factors related to combat readiness over the three-year life cycle of COHORT or personnel-stabilized units. A longitudinal survey was designed to tap such factors in 135 companies/batteries of the combat arms, including twelve COHORT or personnel-stabilized battalions and seven traditional (individual) personnel replacement battalions matched by unit type and location.

PRODUCTS COMPLETED DURING THIS PERIOD: All of the primary and the key secondary analyses required for the final report on this project have been completed on the data collected from 1985-87 as well as selective analysis of data collected during the period 1982-87. At present the final narrative report integrating the critical qualitative and quantitative findings is progressing towards completion. In addition to the final report data from the COHORT project has been utilized to create a new set of questionnaires designed to assess military unit cohesion and psychological readiness for combat as well as diagnose the behavioral and psycho-social factors that most seriously affect the unit in peacetime and that historical data demonstrates will then affect the rates of generation of combat stress casualties in peacetime. These instruments have been developed for use in each of the combat arms and for assessing CS and CSS organizations given their posited high vulnerability in future warfare.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: During the next fiscal year the final report on the human dimensions of the Army's first COHORT program will be completed and distributed as will materials designed to help the Army leadership community provide training strategies for altering leadership behaviors that lead to sub-optimal unit cohesion and bonding and thus increase the risk of combat stress breakdown for their troops. Dependent upon a decision presently being made by the CSA this work will then move ahead to evaluate the psycho-social consequences and effects of the Army's next test of a new series of COHORT modalities involving several patterns of intermittent package replacement and incorporation in units manned on a continuing rather than closed life cycle basis.

SCRD-UWI-A

30 September 1988

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Precipitants of Dysfunction Among Body Handlers

PRINCIPAL INVESTIGATOR: LTC James E. McCarroll, Ph.D., MS

PROJECT START DATE: July 1988

EXPECTED COMPLETION DATE: June 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Personnel who must observe and handle human remains as a part of their job during or immediately after the occurrence of a casualty-producing event are known to be at high risk for stress reactions. The objective of this research was to provide important information on how experienced and inexperienced body handlers coped with the stress of handling remains and prepare themselves and others for this job. We looked for the precipitants of dysfunction, the experiences that overwhelm or protect the individual against breakdown on the site as well as after the job is finished.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: On-site observations of body handling were made and interviews were conducted with over 100 persons who had handled human remains in disasters and combat. Persons interviewed included hospital and forensic pathologists, military body handlers who had served in Vietnam and other combat locations, and inexperienced military personnel who had volunteered to assist in post-disaster field and mortuary operations, police and fire department personnel, emergency medical technicians, and Red Cross disaster relief workers. All interviews lasted 1-3 hours and were semi-structured around the nature of the jobs and their experiences and observations, particularly concerning the stress of handling dead bodies and coping with such stress.

The first objective was to determine the nature of the traumatic stressor that seems to affect personnel exposed to traumatic death. Among these factors are: overwhelming sensory stimulation (visual, auditory, olfactory and tactile), aspects of novelty, untimely, and grotesque forms of death, the process of psychological identification, which is sometimes called "emotional involvement, and is often expressed as "it could be me." The type of body, especially the bodies of children, friends and acquaintances, and family members, also affect the amount of stress felt by a body handler. Handling of personal effects tends to contribute to identification through association with as pictures, uniforms, and objects belonging to the deceased.

Coping strategies were also reported and observed. These are grouped temporally: before, during, and after exposure to mass traumatic death. Preparation for exposure, an inbriefing, is especially important for persons who have had no prior exposure to traumatic death. A realistic description of what people will see and do is essential. Social relationships among the workers, professional personnel, and supervisors are also critical to maintaining individual and team effectiveness during recovery and identification operations. The importance of an individual's role helps each person to feel s/he is a part of an important effort. Avoidance strategies are often employed on site to help individuals cope with the sensory stimulation. Such tactics include not looking at the face, and wearing face

masks to avoid smells. People also tend to de-humanize the bodies as a way of avoiding emotional involvement with the dead. Supervisors need to be attentive to schedules so that people do not spend extraordinary amounts of time in the presence of the bodies. Rest breaks away from the bodies where food and drink are available are also necessary. Following the event, an outbriefing can provide a transition from the intensity of such operations to the work environment. A supportive reception of the individual at the primary work group also helps a person cope with the stress. Points of risk after the operation is over are: memorial services, pictures of families of the deceased, reading newspaper accounts of the families and other events which tend to humanize the dead. Use of alcohol is usually involved in the aftermath of operations for the less technical personnel.

RESULTS ACHIEVED: Papers for professional journals on the nature of the stresses in handling dead bodies and coping with these stresses have been submitted. Four professional presentations have been given on these topics. (see attached list of presentations and publications.) Videotaped interviews were conducted with experienced Army graves registration personnel. These tapes will be edited for presentations to special audiences such as personnel in training for the graves registration field, supervisors and commanders of graves registration personnel.

SGRD-UWI-A

30 September 1988

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Assessing Soldier Responses to Depictors of Traumatic Death: Training and Doctrine Implications

PRINCIPAL INVESTIGATOR:

LTC James E. McCarroll, Ph.D., MS
 Herbert Friedman, Ph.D.
 Glenn Shean, Ph.D.
 Larry Ventis, Ph.D.
 COL Daniel J. Redmond, M.D., MC

PROJECT START DATE: May 1989

EXPECTED COMPLETION DATE: August 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Although there is a large literature on disasters, there is nothing in the scientific literature on understanding the nature of the stressor involved in handling of the dead. Our research proposes to conduct a series of studies with the participation of naive and experienced graves registration (GR) personnel and non-GR personnel at the U. S. Army Graves Registration School and Center, and Ft. Lee, Virginia. These studies will involve further efforts at understanding what is traumatic about handling the dead to various experienced and inexperienced groups of people. The purpose of this research is to understand the attitudes, feelings and behaviors of soldiers exposed to remains. The best available peacetime source of such soldier is the Army's Graves Registration function, the Army's body handlers. It will use a peacetime model based on GR soldiers to provide conclusions applicable to all soldiers.

Fortunately, it is difficult to find actual combat situations to study, so we hunt for models of combat which lend themselves to study in hope of realizing benefits that will apply to soldiers in a combat situation. The handling of the dead in war is a function which involves many dimensions of stress that cause even experienced personnel to report discomfort and symptoms, yet we know very little about the nature of the stressor which is frequently a major component of traumatic events. Frequently, a volunteer rescue worker or body handler will participate only once and the person declines to participate in a second exposure. The soldier in combat has no such choice.

Our objective is to determine if there is any consistency in the rating of distress given by subjects upon exposure to a variety of bodies, as depicted in slides. We want to determine if any category of body (e.g., child) is consistently given high or different ratings of subjective distress by subjects, and to identify the qualities of the stimulus that are characteristics of exposure to bodies that are the most disturbing, psychologically and physiologically, as measured by heart rate parameters. We will attempt to establish categories of stimulus quality, as measured by subjective ratings and physiologic responses.

We will determine if the slides are rated differentially by background, personality and demographic factors such as sex, age, MOS, prior experience with bodies, education, marital status, or whether or not the person has children.

In all the areas of inquiry listed above, we are also interested in whether

the physiologic responses (heart rate and interbeat interval) are related to the slides and to the background and demographic factors.

The research will be conducted by psychologists Friedman, Shean, and Ventis, from the College of William and Mary, Williamsburg, Virginia, under an Intergovernmental Personnel Agreement (IPA). COL Daniel J. Redmond, M. D., Department of Behavioral Biology, WRAIR, will be our consultant for heart rate recordings.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: A total of approximately 60 subjects from the Graves Registration Center and other organizations on Ft. Lee, Virginia, have been tested. Data analysis will begin in about January when the data collection is anticipated to have been completed. Heart rate recordings will be processed at the U.S. Army Aeromedical Laboratory, Ft. Rucker, Alabama, the only facility with equipment capable of performing the analyses of heart rate interbeat interval that we need.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: At the end of this period we will know whether there is consistency in the ratings made of slides of traumatically disturbed bodies by naive subjects and whether personality and physiologic correlates exist to these measures. Further research will be based on the outcome of these analyses.

SGRD-UWI-A

30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

PROJECT TITLE: Unit Manning System Family Health Study

PRINCIPAL INVESTIGATOR: Leora N. Rosen, Ph.D.

PROJECT STARTING DATE: November 1985

COMPLETION DATE: July 1989

BRIEF DESCRIPTION OF THE PURPOSE OF THE RESEARCH DURING THIS PERIOD: The main purpose of this study was to examine the impact of military life stress on the general well-being and quality of life of military wives. The study also sought to understand the role of social support in mediating this stress, and the impact of wives' attitude towards the military on retention and readiness.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: During this fiscal year our major findings were:

1. That social support from other wives within their husbands' units was a more effective buffer against the stress of husbands' absence than any other form of support, for example, support from family back home, or friends outside the unit.
2. That satisfaction with their own overall career development prospects is more important to the well-being of military wives than being employed per se.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: The Wife of the First Term Enlisted Soldier: A Study of Socialization and Role

PRINCIPAL INVESTIGATOR: Florence R. Rosenberg, Ph.D.

PROJECT START DATE: Spring 1987

COMPLETION DATE: February 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: To study adaptation and socialization to the military of first term wives; i.e., how norms of military life are learned and internalized; perceptions of the role of the Army wife; major stresses and methods of coping, especially use of social support; attitudes toward the Army and military life.

PROJECTS COMPLETED DURING THIS PERIOD:

1. Technical report: Cleared by WRAIR and USUHS and submitted to DTIC.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Article now in preparation tentatively titled "The Role of the Army Wife."

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Thematic Analysis of Spouse Comments: Annual Survey of Army Families, 1987.

PRINCIPAL INVESTIGATOR: Florence R. Rosenberg, Ph.D.

PROJECT START DATE: October 1988

COMPLETION DATE: July 1989

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: To analyze the comments volunteered by respondents on the ASA Survey in terms of major issues (content areas), positive/negative valence, association between rank and attitudes; between CONUS/OCONUS location and attitudes, and to identify areas and issues that should be included in future surveys.

PROJECTS COMPLETED DURING THIS PERIOD:

1. Coding system for major themes, content and valence of volunteered comments.
2. Completion of coding and analysis of over 4000 comments sheets representing 50% of total.
3. Presentation of major results at CSFC meeting, March 1989.
4. Technical report approved for clearance, September 1989 and submitted to DTIC.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Comparison of these results and analysis of the ASA Survey data.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Analysis of ASA Survey

PRINCIPAL INVESTIGATOR: Florence R. Rosenberg, Ph.D.

PROJECT START DATE: Fall 1989

COMPLETION DATE: September 1990

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Quantitative analysis of data relating to experience and attitudes of Army spouses. Analysis will focus on satisfaction/dissatisfaction with different aspects of Army life and the reasons for this. We will try to integrate these results with the conclusions of the thematic analysis of spouse comments volunteered in the same study.

PROJECTS COMPLETED DURING THIS PERIOD: We are now in the process of activating the survey tapes on the VAX system and are trying to obtain other necessary documentation such as codebooks.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Multivariate analysis of survey data and preliminary report on this analysis.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Survey of First Term Army Wives**PRINCIPAL INVESTIGATOR:** Florence R. Rosenberg, Ph.D.**PROJECT START DATE:** Summer 1989**COMPLETION DATE:** September 1990**BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH:** To study a representative sample of first term wives at 3-4 Army posts. Research will focus on attitudes, well being, problems, coping, and social support.**PROJECTS COMPLETED DURING THIS PERIOD:** At present, we have developed the objectives of the study and are now in the process of constructing a questionnaire relating to these objectives.**MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR:**

1. Completion and pretesting of survey instrument.
2. Selection of sample of Army wives.
3. Collection of data through mail questionnaires.
4. Initiation of multivariate analysis of survey data.

SCRD-UWI-A

30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Suicide in the Military

PRINCIPAL INVESTIGATOR: Joseph M. Rothberg, Ph.D.

PROJECT START DATE: 1975

EXPECTED COMPLETION DATE: Ongoing

DESCRIPTION OF THE PURPOSES OF THE RESEARCH:

1. To assess the current state of suicide prevention in the Army as summarized by descriptions of the Army's suicide prevention program and its history.
2. To determine the recent trends in the rate of suicide in relation to the implementation of the suicide prevention program.
3. To review the area of suicide as a community phenomenon and determine the implications for future research in that area.
4. To develop information on the specific components which must be integrated into a comprehensive, unified suicide prevention program.

MAJOR PRODUCTS COMPLETED DURING THIS PERIOD: The major products completed during this period are five presentations and six widely disseminated publications in the scientific literature. These publications and presentations serve to inform and educate Army and military professionals on the current state of this research activity and cover the broad areas of the suicide prevention program, the epidemiology of suicide in the Army and in the Air Force, special Army suicide stressors, and high risk sub-populations within the military.

1. The suicide prevention program in the Army is a component of the health promotion activities specified in AR 600-63. These are an implementation of the Department of Defense directive 1010.10 which is, in turn, consistent with the national health goals. The comprehensive program of health promotion consonant with the national goals as implemented in the Army has been described in a paper and in presentations.
2. The epidemiology of suicide in the Army and suicide in the Air Force have been described in three papers describing the trends in the rates of suicide and characterizing the suicide victims. The suicide rate for the Air Force for the 1981-1985 period was lower than the rate for the 1958-1964 period. The Army shows an unexplained increase in the suicide rate for 1985-1986 compared to 1983-1984. There was a remarkable constancy in the victim's pre-suicidal motivational state for both the Army and Air Force suicides pointing unflinchingly toward a love object dyadic relationship in total collapse.
3. The evidence from published sociological and epidemiological studies indicates that people that migrate or move their residence tend to have higher

rates of suicide than non-movers. Soldiers make numerous moves and there are no prior studies of the potential relationship between suicides and Army moves. A preliminary report suggests that the correlation of suicides and moves is not present for the majority of the soldiers but does seem to appear for the youngest third of the Army population.

4. All active duty personnel are tested for evidence of infection with the virus implicated as the cause of the acquired immune deficiency syndrome. A positive diagnosis is a stress that carries an elevated suicide risk and a program has evolved to deal with that stress as a suicide prevention effort. Presentations and publications have described the nature of the stress and the program at an Army Medical Center.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR:

Dissemination of research findings in the scientific literature and continued epidemiological analysis of suicide in the Army..

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Package Replacements and Cohesion**PRINCIPAL INVESTIGATORS:** LTC R. J. Schneider, Ph.D., MS
LTC Robert Gifford, Ph.D., MS
LTC J. E. McCarroll, Ph.D., MS**PROJECT START DATE:** January 1987**COMPLETION DATE:** January 1990**BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH:** The Army is considering adoption of a new system to replace soldiers lost from military units. This system includes assigning small groups of soldier packages who have trained together to a unit. The expectation is that this will enhance small group cohesion and decrease stress in the replacements. This study was designed to determine:

1. Does assignment as part of a package reduce stress and enhance cohesion?
2. What are the optimal replacement package sizes?
3. Are there cultural aspects of the Army which mitigate against use of acceptance of such packages of soldiers?

PRODUCTS COMPLETED DURING THIS PERIOD: All data have been collected and analyzed. A final report is almost completed**MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR:** Completion of the final report. The final report will contain a series of training and doctrine implications, as well as suggestions for definitive research needs in this area.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORT

TITLE OF PROJECT: Leader Behavior, Stress, and Cohesion**PRINCIPAL INVESTIGATORS:** LTC R. J. Schneider, Ph.D., MS
LTC Robert Gifford, Ph.D., MS**PROJECT START DATE:** November 1988**EXPECTED COMPLETION DATE:** January 1992

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: Prior research on stress and cohesion in the small unit indicates that a major factor increasing or mitigating each is small unit leader behavior. This project is designed to identify high and low cohesion units, and study leader behavior and stress and coping among soldiers in those units.

PRODUCTS COMPLETED DURING THIS PERIOD: A questionnaire has been developed and pilot tested, and modified appropriately. The research protocol is completed for submission.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Questionnaire and interview study of a proportion of the units will be completed. These will be used to complete preliminary reports which will be useful to help TRADOC make decisions concerning training needs for Army leaders.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORTS

TITLE OF PROJECT: Family, Community and Unit Adaptation and Coping with the Stresses of Light Infantry Mission Demands on Soldiers.

PRINCIPAL INVESTIGATOR: Joel M. Teitelbaum, Ph.D.

PROJECT START DATE: July 1985

COMPLETION DATE: September 1987

BRIEF DESCRIPTION OF THE PURPOSE OF THE RESEARCH: To perform an integrated family/community field assessment of Light Infantry units, measuring the demographic dynamics of enlisted soldier marriage and family formation and their impacts on family and soldier coping with intensive small unit field training. Another objective was to gain understanding of military leadership for families, of social support interactions among unit family members across the unit life cycle, and to assess installation initiatives for families in the military community and units.

PRODUCTS COMPLETED DURING THIS PERIOD: Papers have been written for publication and/or presented at conferences during this period. Technical reports have been provided to senior Army leaders. Briefings have been delivered to Army commanders in the field and to military policy makers at HQDA and in the DOD.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: A chapter of the Final Report on the 4th Light Infantry Human Dimensions Field Assessment on family/community will be published and distributed. A segment on the Light Infantry will be in a book on Army family life of which I am an editor and author of several chapters. Secondary analyses of Light Infantry COHORT/nonCOHORT family data will be prepared for submission as technical reports, for delivery at conferences of military and academic entities, and submitted for publication. A presentation will be made at the DOD Research Review Seminar, for a briefing to the DOD Family Policy Coordinating Committee (FPCC) and other military policy makers. An in process review will be presented to the Community and Family Support Center (CFSC), and a semi-annual research technical report will be prepared for CFSC on family/community issues.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORTS

TITLE OF PROJECT: Adjustment and Adaptation of Enlisted Family Members to Separation During Long Term Unit Deployment.

PROJECT START DATE: March 1986

COMPLETION DATE: February 1988

BRIEF DESCRIPTION OF THE PURPOSES OF THE RESEARCH: To document stressful events surrounding long-term unit deployment and to assess family member adaptation, coping and social supportiveness perceptions during military separations.

PRODUCTS COMPLETED DURING THIS PERIOD: One paper was published and one was presented to a conference. Contributions to Army Science Board and the Chief of Staff's Soldier Issues Forum were prepared. Results were presented at a Community and Family Support Center-WRAIR In-Process Review and at a DOD Military Family Subcommittee and to the Army Science Board Ad Hoc Subcommittee on Army Family and Community.

MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR: Additional papers and presentations will be prepared from the data base for military and academic audiences. If funding is made available from an outside source, a study of soldier deployability and family type will be performed in FY90 including the impact of family factors on early return from deployments. A presentation will be made at the DOD Research Review meeting of the Family Policy Coordinating Committee.

SGRD-UWI-A

30 September 1989

RESEARCH ACTIVITY SUMMARY REPORTS

TITLE OF PROJECT: Training Accidents: CONUS Case Studies**PRINCIPAL INVESTIGATOR:** Kathleen M. Wright, Ph.D.**PROJECT START DATE:** October 1988**COMPLETION DATE:** Estimate depends on the number of training accidents that occur. Current objective is to investigate 12 events. Anticipating one event per quarter, completion date would be 1992.**BRIEF DESCRIPTION OF PURPOSES OF RESEARCH:** This project uses peace-time training accidents involving trauma, death, and the requirement of continued individual and unit functioning as a model of combat stress. The objectives are: (1) to determine unit level interventions that facilitate trauma management and resolution; (2) to develop effective medical and leadership practices to manage the disruptive effects of traumatic loss in military units and communities, and, (3) to facilitate the reconstitution of units following such losses.**PRODUCTS COMPLETED DURING THIS PERIOD:** Semi-structured interviews and observations in two units affected by traumatic loss following training accidents (SF Unit: 11 members killed; AVN Unit: 5 members killed).**MAJOR PRODUCTS EXPECTED DURING THE NEXT FISCAL YEAR:** Continue data collection with ongoing coverage of unit training accidents.

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30 September 1989

RESEARCH ACTIVITY SUMMARY REPORTS

TITLE OF PROJECT: Traumatic Loss Field Studies (Collaborative 5 year program of research involving WRAIR, USUHS and WRAIR Field Laboratory in USAREUR).

PROJECT MANAGER (WRAIR): Kathleen M. Wright, Ph.D.

PROJECT START DATE: October 1988

COMPLETION DATE: October 1993

BRIEF DESCRIPTION OF PURPOSES OF RESEARCH: The objectives of the research program are: (1) to understand the fundamental mechanisms by which traumatic loss contributes to psychological stress and to individual and group dysfunction; and, (2) to assess the course of recovery and related interventions. Field studies include projects focusing on: (1) service providers responding to traumatic loss events; (2) unit reactions and grief leadership; and, (3) family and community responses to traumatic loss.

PRODUCTS COMPLETED DURING THIS PERIOD: A consultation/research team has been developed and includes members from WRAIR, Department of Military Psychiatry, and USUHS, Department of Psychiatry. Interview and observational data have been collected in response to the following events, with follow-up survey questionnaires mailed to affected participants:

- (1) Ramstein and Landstuhl emergency and hospital personnel responding to the Ramstein air crash in August 1988;
- (2) Norton AFB squadron follow-up after the air crash in February 1989;
- (3) Dover AFB mortuary body handler volunteers following the USS IOWA explosion in April 1989;
- (4) Casualty Affairs Officers assigned to military families affected by the PAN AM Flight 103 air crash in December 1988, and the SF training accident in March 1989;
- (5) Sioux City, Iowa Air and Army National Guard and Army Reserve personnel assisting in the aftermath of the United Flight 232 air crash in July 1989;
- (6) Medical personnel and chaplains responding to unit training accidents in USAREUR.

MAJOR PRODUCTS EXPECTED DURING NEXT FISCAL YEAR: Complete data collection and begin data analyses for projects #1 - #4; continue data collection for projects #5 and #6 through fiscal year 91.

Publications

- Bartone, P. T., Ursano, R. J., Wright, K. M., & Ingraham, L. H. (1989). The impact of a military air disaster on the health of assistance workers: A prospective study. Journal of Nervous and Mental Disease, 177, 317-328.
- Bartone, P., Wright, K., Ingraham, L., & Ursano, R. J. (October, 1988). Psychological issues in the recovery of an Army unit after traumatic loss, Resources in Education; ERIC/CAPS, University of Michigan, Ann Arbor, MI (Document # ED 294068).
- Bartone, P. T., Ingraham, L. I., Wright, K. M., Ursano, R. J., & Russell, C. (October, 1988). Impact of a military air disaster on the health of family assistance workers. Resources in Education; ERIC/CAPS, University of Michigan, Ann Arbor, MI (Document # ED 294067).
- Bartone, P. T. (1989). Stability and change in dimensions of soldier morale. Alexandria, VA: Defense Technical Information Center (DTIC #ADA 206855).
- Katz, P., & Kirkland, F. R. (1988). Traditional thought and modern western surgery. Social Science and Medicine, 26,(12), 1175-1181.
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- Kirkland, F. R., & Katz, P. (1989). Combat readiness and the Army family, Military Review, 29, 63-74.
- Marlowe, D. H., Martin. J. A.; & Schneider. R. J. (1989). Today's drill sergeant: Dimensions of leadership and training. Army, 39(9), 50-54.
- ³McCarroll, J. E., & Zych, K. A. (1989). Descriptive epidemiologic survey of head injury in the Army: 1983 hospitalized cases. Neuroepidemiology, 8, 48-52.
- Rosen, L. N., Endicott, J., & Moghadam, L. Z. (1989). Psychiatric symptomatology across the menstrual cycle in women reporting high, medium, and low levels of premenstrual change. Military Medicine, 154,(2), 62-63.
- Rosen, L. N., Carpenter, C. J., & Moghadam, L. Z. (1989). Impact of military life stress on the quality of life of military wives. Military Medicine, 154(3), 116-120.
- Rosen, L. N., & Moghadam, L. Z. (1989). Impact of military organization on social support patterns of Army wives. Human Organization, 48(3), 189-195.
- Rosen, L. N., & Moghadam, L. Z. (1988). The unit manning system family health study. (Technical Report). Washington, DC: Walter Reed Army Institute of Research.
- Rothberg, J. M. (1989). Some thoughts on health promotion in the United States Army. Military Medicine, 154(9), 457-461.

- Rothberg, J. M. (1989). Suicides and moves in the United States Army. Unpublished manuscript.
- Rothberg, J. M., Fagan, J., & Shaw, J. (1989). Suicide in United States Army personnel, 1985-1986. Unpublished manuscript.
- Rothberg, J. M., Rock, N. L., Shaw, J., & Jones, F. D. (1988). Suicide in United States Army personnel, 1983-1984. Military Medicine, 153, 61-64.
- Rothberg, J. M., & McDowell, C. P. (1988). Suicide in United States Air Force personnel, 1981-1985. Military Medicine, 153, 645-648.
- Schneider, R. J., & Bartone, P. T. (1989). Unit replacements: Still lost on the road. Military Review, 69, 68-75.
- Shaw, S., & Rothberg, J. M. (1988). A suicide prevention program for HIV-positive patients. Proceedings of the 21st Annual Meeting of the American Association of Suicidology (pp. 173-174). Washington, DC.
- Teitelbaum, J. M. & Furakawa, T. P. (1988). Family cohorts: Makers/breakers of COHORT unit cohesion and readiness. Proceedings of the 30 Annual Conference of the Military Testing Association (pp. 38-45), Arlington, VA.

Presentations

- Bartone, P. T. (1988, October). Stress and health in survivor assistance officers. Paper presented at the 4th Annual Conference on Military Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD.
- Bartone, P. T. (1988, October). Grief and unit reconstitution from disaster. Presented at the 4th Annual Conference on Military Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD.
- Bartone, P. T. (1989, January). Personality hardiness and social supports as modulators of disaster helper stress. Paper presented at the Fourth International Conference on Psychosocial Stress and Adjustment in Time of War and Peace, Tel Aviv, Israel.
- Bartone, P. T. (1989, April). Stress leadership: Effective leadership in high-stress environments. Presented at the Annual Research Conference of the Center for Army Leadership, Kansas City, MO.
- Bartone, P. T. (1989, April). Hardiness, optimism, and health: A construct validity study. Presented at the 60th Annual Meeting of the Eastern Psychological Association, Boston, MA.
- Bartone, P. T. (1989, May). Long-term follow-up of Gander survivor assistance officers. Presented at Annual Meeting of Army Research Psychologists, Natick, MA.
- Bartone, P. T. & Schneider, R. J. (1989, June). Social context and personality influences on new soldier adjustment. Presented at the Annual Convention of the American Psychological Society, Alexandria, VA.
- Ender, M. G., & Bartone, P. T. (1989, August). Civil-military interface: The case of Army casualty assistance workers. Presented at the Annual Convention of the American Sociological Association, San Francisco, CA.
- Jensen, P. J. (1989, February). Models of parental aggression: A comparison of mothers and fathers at risk for child abuse. Paper presented at the Annual Child Psychiatry Conference of the Army Medical Department, Reno, NV.
- Katz, P. (1988, October). Ritual in psychiatric practice. Paper presented at Grand Rounds, Department of Psychiatry, VA Medical Center, Loch Raven, MD.
- Katz, P. (1988, October). Enhancing interactive skills with ethnic minorities. Paper presented at the Office of Substance Abuse Prevention, National Institute on Drug Abuse, Rockville, MD.
- Katz, P. (1988, October). Constructs of emotions among drill sergeants. Paper presented at the American Anthropological Association Annual Meeting, Phoenix, AZ.
- Katz, P. (1988, November). Enhancing communication with ethnic minorities. Paper presented at the Clearing House, National Institute on Drug Abuse, Clearing House, Rockville, MD.

Katz, P. (1989, January). Socio-cultural aspects of health-seeking behavior. Paper presented at the American Lung Association Meeting, Baltimore, MD

Katz, P. (1989, March). Drill sergeants' families and command climate. Paper presented at Invitational Command Seminar, U. S. Army Training Center, Fort Dix, NJ.

Katz, P. (1989, March). Interaction of drill sergeants in family and unit life. Paper presented at ROTC Seminar, Brigham Young University, Provo, UT.

Katz, P. (1989, March). Ritual as a liberating force in secular society. Paper presented at Anthropology Guest Lecture Series, Brigham Young University, Provo, UT.

Katz, P. (1989, March). Acculturation and social networks of American immigrants in Israel. Paper presented at the Society for Middle East Studies and Department of Anthropology Seminar Series, University of Utah, Salt Lake City, UT.

Katz, P. (1989, March). Emotional constructs of drill sergeants. Paper presented at ROTC and Anthropology Department Seminar, Brigham Young University, Provo, UT.

Katz, P. (1989, April). Family and work roles of drill sergeants. Paper presented at the Society for Applied Anthropology Annual Meeting, Santa Fe, NM.

Katz, P. (1989, April). Communication across cultural boundaries. Paper presented at Springfield State Hospital, Sykesville, MD.

Katz, P. (1989, August). The role of culture and ethnicity in military social science research. Paper presented at the Behavioral Science Specialists' Professional Development Program, Department of Military Psychiatry, Walter Reed Army Institute of Research, Washington, DC.

Leiter, D., Jensen, P. J., & Hughes, B. (1989, March). Mothers and their babies: Prenatal coping, postnatal attitudes, and mother-infant bonding. Paper presented at the Annual Meeting of the Southwestern Psychological Association, Washington, DC.

Marlowe, D. H. (1989, January). Cohesion and the causes and prevention of combat stress reactions with special emphasis on the role of the leader. Paper presented to Officer Professional Development, Ft. Gordon, GA.

Marlowe, D. H. (1989, April). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to United Nations Command, Korea.

Marlowe, D. H. (1989, April). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Commanding General and staff, 2nd Infantry Division, Korea.

Marlowe, D. H. (1989, April). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Commanding General and staff, WESTCOM, HI.

Marlowe, D. H. (1989, April). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Commanding General and staff, 25th Infantry Division (Light), HI.

Marlowe, D. H. (1989, April). Leadership and the institutional culture of the Army. Paper presented at the Annual Research Conference, Center for Army Leadership, Ft. Leavenworth, KS.

Marlowe, D. H. (1989, May). Stress and individual entry training. Paper presented at the Army Training Center Brigade Commanders' Conference, Redstone Arsenal, Ft. McClellan, AL.

Marlowe, D. H. (1989, May). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Commanding General and staff, 10th Mountain Division, Ft. Drum, NY.

Marlowe, D. H. (1989, May). Cohesion and the causes and prevention of combat stress reactions with special emphasis on the role of the leader. Paper presented to Officer Professional Development, Aberdeen Proving Ground, MD.

Marlowe, D. H. (1989, June). Cohesion and the causes and prevention of combat stress reactions with special emphasis on the role of the leader. Paper presented to Officer Professional Development, Ft. Leonard Wood, MO.

Marlowe, D. H. (1989, June). Cohesion and the causes and prevention of combat stress reactions with special emphasis on the role of the leader. Paper presented to Officer Professional Development, Ft. Knox, KY.

Marlowe, D. H. (1989, June). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Deputy Chief of Staff for Training and staff, Headquarters, Training and Doctrine Command, Ft. Monroe, VA.

Marlowe, D. H. (1989, June). The human aspects of combat: Not a Ceteris Paribus proposition. Paper presented at the Military Operations Research Society, Ft. Leavenworth, KS.

Marlowe, D. H. (1989, August). Cohesion and the causes and prevention of combat stress reactions with special emphasis on the role of the leader. Paper presented to Officer Professional Development, Ft. Monroe, VA.

Marlowe, D. H. (1989, September). Patterns of cohesion and factors underlying success and failure in the human dimensions of the COHORT program. Paper presented to Deputy Chief of Staff, Operations, and staff, Headquarters, Department of the Army, Washington, DC.

McCarroll, J. E., & Ursano, R. J. (1989, May). Defenses against psychological stress of handling dead bodies. Paper presented at the Department of Psychiatry Grand Rounds, Dwight D. Eisenhower Army Medical Center, Augusta, GA.

McCarroll, J. E., & Ursano, R. J. (1989, May). Defenses against traumatic sequelae of handling dead bodies. Paper presented at the 5th World Congress of Victimology, Acapulco, Mexico.

McCarroll, J. E., & Ursano, R. J. (1989, August). Research in traumatic stress: Death and disasters. Paper presented at the Joint Services Mortuary Affairs Conference, Ft. Lee, VA.

McCarroll, J. E., & Ursano, R. J. (1989, September). Psychological stress in identification of bodies in mass disasters. Paper presented at the Dental Identification Section Section of the Mass Disaster Organization Conference sponsored by the Pennsylvania State Dental Society, Harrisburg, PA.

Minichan, J., & Jensen, P. J. (1989, March). Psychosocial risk and mother-infant perinatal outcomes: A reappraisal. Paper presented at the Annual Meeting of the Southwestern Psychological Association, Washington, D.C.

Rosenberg, F. R. (1989, March). Multiple Life Events: Some consequences in terms of roles. Paper presented to the Annual Meeting of the Eastern Sociological Society, Baltimore, MD.

Rosenberg, F. R. (1989, August). Role impoverishment: A study of young Army wives. Paper presented at the Annual Meeting of the American Sociological Association, San Francisco, CA.

Rothberg, J. M. (1989, May). Suicide as a Public Health Problem. Paper presented at the Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, Bethesda, MD.

Rothberg, J. M. (1988, July). Current Research. Paper presented at the Department of Military Psychiatry Seminar, Walter Reed Army Institute of Research, Washington, DC.

Rothberg, J. M. (1988, September). Selected topics in military psychiatry. Paper presented at the Department of Military Psychiatry Seminar, Walter Reed Army Institute of Research, Washington, DC.

Shalev, A., Ursano, R. J., Ingraham, L. I., Wright, K. M., Bartone, P. T., & Fullerton, C. S. (1989, January). Debriefing following group exposure to traumatic stress. Presented at the 4th International Conference on Psychological Adjustment in Time of War and Peace, Tel Aviv, Israel.

Ursano, R. J., Ingraham, L. I., Wright, K. M., Bartone, P. T., Russell, C., & Cervantes, R. (1988, October). Coping with disaster: Death and dead bodies. Presented at the World Psychiatric Association, Regional Symposium, Washington, DC.

Ursano, R. J., Ingraham, L. I., Wright, K. M., Bartone, P. T., & Cervantes, R. (1989, January). Coping with death and dead bodies. Presented at the 4th International Conference on Psychological Adjustment in Time of War and Peace, Tel Aviv, Israel.

Wright, K. M. (1988, October). Community responses to disaster: Victim classification. Presented at the 4th Annual Conference on Military Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD.

Wright, K. M., & Ursano, R. J. (1989, January). Victim classification in disasters. Presented at the 4th International Conference on Psychological Adjustment in Time of War and Peace, Tel Aviv, Israel.

Wright, K. M., & McCarroll, J. E. (1989, August). Traumatic disruption of groups: The management of grief and exposure to the dead. Presented at the CONOPS/Stress Management Working Conference, U.S. Army Soldier Support Center, Indianapolis, IN.